

# Report to the Joint Minerals, Business, and Economic Development Interim Committee

## Municipal Solid Waste Landfill Cease and Transfer Program Landfill Prioritization and Cost Estimates

December 2013



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## **1.0 Introduction**

Section 2 of House Engrossed Bill No. 066/Enrolled Act No. 114 appropriates funds to the municipal solid waste facility cease and transfer account. The account provides funding assistance to local governments seeking to transfer waste to regional landfills and close their local landfills. No funds may be expended from the account until the legislature has approved a prioritized list of projects that qualify for the grants and loans. This report includes a prioritized list of projects that the Department of Environmental Quality (Department) believes will qualify for funding and an estimate of the cost for these activities. Submittals from qualified entities will be evaluated using criteria identified in §35-11-528(d) to determine eligibility for grant funding.

## **2.0 Background Information**

Due in large part to the groundwater contamination caused by unlined landfills, landfill operating costs have risen beyond the financial capabilities of many local governments in Wyoming. Integrated Solid Waste Planning completed in 2009 indicates that shared waste management strategies, especially shared landfills, can help control rising costs. As a result, many small landfill operators plan to transfer waste to more cost effective regional landfills, and then close their local landfills.

A community can't close its landfill until the infrastructure for waste transfer is in place. The process of constructing a transfer station may require one or two years because of the time needed to determine community needs, make arrangements for funding, and complete permitting, design and construction. Depending on community size and transport distances, the infrastructure needed can range from a refuse collection (packer) truck to a large transfer station.

After transfer facilities are in place, landfill closure can begin. Because many landfills are closing more quickly than anticipated, current landfill contours and slopes are often not adequate to ensure long term slope stability and sufficient surface water drainage. It may be necessary to improve final grades before final cover (caps) can be constructed. Designing and constructing final cover will also take time. Measures such as intermediate cover and improved storm water management can minimize threats to groundwater until final grades are achieved and caps constructed.

This report accounts for the time needed to first transfer waste and then close a landfill. Separate and distinct issues may drive the need for transfer stations and landfill caps. Transfer stations are generally needed because of rising operational costs and because local governments cannot afford to comply with liner and performance design standards. The timing for transfer stations depends upon when a landfill or unit will reach capacity or when an operator may need to line the next disposal unit. To minimize threats to groundwater, closure schedules are prescribed by rule. However, when groundwater contamination has been detected, the Department believes that the relative severity of contamination should be considered as well. In some cases a community may need a transfer facility in a short time, but their landfill may not need a cap as quickly because groundwater contamination is less severe than another landfill. For these reasons the Department first evaluated transfer and closure needs based on general timing requirements and prepared an annual cost estimate. The Department then prioritized transfer and closure activities together based upon the factors described in Section 6.0 below.

### 3.0 Schedule for Waste Transfer

The approximate schedule for waste transfer facilities is presented in Table 1 below. The date transfer funding is needed is based on the time remaining before a landfill needs to cease receipt of waste or will need to prepare a lifetime renewal permit with a liner or performance based design. The date assumes funding for construction will be needed one (1) year before transfer is required. Operators may need to cease receipt of waste because their landfill has completely reached capacity or because an existing disposal unit is reaching capacity and engineered containment (a liner) or a performance based design for new units are not affordable.

**Table 1**  
**Estimated Waste Transfer Schedules**

<b>Entity</b>	<b>Date Transfer Funding Needed</b>	<b>Transfer Facility Cost Estimate (Note 3)</b>
Wheatland, Town of	2014	\$2,400,000
Upper Platte River SWDD - Saratoga	2014	\$500,000
Big Horn County Solid Waste Disposal District (SWDD) - South	2014	\$1,500,000
Park County Landfills	2014	\$351,000
Central Weston County SWDD - Osage	2014	\$350,000
Upton, Town of	2014	\$1,300,000
Ten Sleep SWDD	2014	\$500,000
Newcastle, City of	2014	\$1,200,000
Moorcroft, Town of - Moorcroft #3	2014	\$1,500,000
Fremont County SWDD - Dubois (Note 2)	2014	\$425,000
Lincoln Co. - Thayne	2015	\$1,500,000
Teton County - Horsethief Canyon (Note 1)	2015	\$2,500,000
Uinta County Solid Waste - Bridger Valley	2016	\$920,000
Big Horn County SWDD - North #2	2016	\$1,500,000
Green River, City of - Green River #2	2017	\$1,500,000
Thermopolis, Town of	2017	\$2,000,000
Hulett, Town of	2017	\$500,000
High Country Joint Powers Board - Hanna	2018	\$400,000
Fremont County SWDD - Lander (Note 1)	2020	1,500,000
LaBarge, Town of	2020	\$250,000
Torrington #2 (Note 1)	2022	\$1,500,000
Cheyenne, City of (Note 1)	2023	\$9,000,000
Casper, City of (Note 1)	2024	\$9,000,000

**Total Transfer Cost:               \$42,096,000**

Notes:

1. Sites with existing transfer stations, but are requesting assistance for improvements.
2. Requesting reimbursement for past work.
3. Costs are based upon information from applicants or Department estimates if applicants did not provide an estimate.

#### 4.0 Schedule for Landfill Capping and Closure

After an operator is able to transfer waste to a regional landfill it will be possible to cease receipt of waste and cap (close) the existing landfill to protect groundwater. The Solid Waste Rules and Regulations require that closure activities commence no later than thirty (30) days following the time the facility ceases to receive solid wastes. Closure activities must be completed within one hundred eighty (180) days following commencement of closure. However, the administrator may approve delayed closure if the owner demonstrates that there will be no threats to human health or the environment.

It is almost certain that technical and financial constraints will prevent most operators from meeting the minimum schedule for closure. Fortunately, measures can be taken to minimize threats to groundwater until caps can be constructed. With measures to protect groundwater, the Department may temporarily permit operators to use construction and demolition (CD) waste to bring final slopes to grades that are stable and promote surface water runoff. At landfills without sufficient quantities of soil, the use of CD waste to achieve necessary grades will minimize closure costs by reducing the need to import fill material. Groundwater protection measures will include thorough waste screening measures and the frequent application of cover over waste. When landfill contours reach the approved final grade, intermediate cover can be utilized to further minimize surface water infiltration until final cover can be constructed. The following closure list (Table 2) is based upon the approximate regulatory date for closure and when funding will be needed one (1) year before construction begins.

**Table 2**  
**Approximate Regulatory Schedule for Landfill Closure**

<b>Entity</b>	<b>Date Closure Funding Needed</b>	<b>Cost Estimate (Note 4)</b>
Lusk, Town of	2014	\$2,100,000
Eden Valley SWDD	2014	\$1,581,000
Fremont County SWDD – Dubois (Note 5)	2014	\$894,000
Rock River, Town of - Rock River #2	2014	\$905,000
LaGrange, Town of	2014	\$1,400,000
Glenrock	2015	\$1,600,000
Lincoln Co. - Thayne	2015	\$2,600,000
Teton County - Horsethief Canyon	2015	\$7,555,000
Sundance, City of	2015	\$2,240,000
Upper Platte River SWDD - Saratoga	2015	\$2,300,000
Wheatland, Town of	2015	\$2,500,000
Manville, Town of	2015	\$500,000
Moorcroft, Town of - Moorcroft #3	2015	\$500,000

<b>Entity</b>	<b>Date Closure Funding Needed</b>	<b>Cost Estimate (Note 4)</b>
Upton, Town of	2015	\$1,500,000
Hulett, Town of	2016	\$1,088,000
Newcastle, City of	2016	\$1,100,000
Ten Sleep SWDD	2016	\$800,000
Fremont County SWDD - Shoshone	2016	\$1,645,000
Central Weston County SWDD - Osage	2016	\$700,000
Big Horn County SWDD - South	2017	\$2,400,000
Douglas, City of	2018	\$3,300,000
Rawlins, City of	2018	\$7,300,000
Thermopolis, Town of	2018	\$2,500,000
Baggs SWDD	2018	\$2,250,000
Big Horn County SWDD - North #2	2018	\$1,700,000
Kaycee, Town of	2018	\$1,000,000
Uinta County Solid Waste - Bridger Valley	2018	\$4,000,000
Torrington #2	2019	\$5,000,000
Green River, City of - Green River #2	2019	\$3,500,000
High Country Joint Powers Board - Hanna	2020	\$1,000,000
Fremont County SWDD - Lander	2023	\$4,692,800

**Total Cost:               \$72,150,800**

Notes:

4. Cost estimates based on information provided by applicants or a \$100,000/acre average cap cost if the applicant did not provide an estimate.
5. Requesting reimbursement for past work.

## **5.0 Annual Cost Estimates for Transfer Facilities and Landfill Capping**

Annual cost estimates for waste transfer and landfill closure activities are provided in Table 3 below. These schedules are based upon the time communities need transfer facilities and the regulatory requirements for closure to commence. The schedule is independent of funding availability. If funding is not available, schedules will need to be adjusted accordingly. For most operators, transfer station construction may be the most pressing need because disposal in unlined landfills cannot stop until waste can be transported elsewhere.

The total amount of funding needed for eligible transfer facilities is approximately \$42,096,000 and the total amount needed for eligible landfill capping activities is approximately \$72,150,800 for a total of \$114,246,800. If the state funds 75% of the cost, the state's share would be approximately \$85,685,100 and the local government share would be approximately \$28,561,700. Note that leaking landfills capped under the cease and transfer program will not need to be capped under the landfill remediation program.

**Table 3**  
**Annual Cost Estimates for Transfer Facilities and Landfill Capping**

<b>Year</b>	<b>Transfer Facility Cost</b>	<b>Capping Cost</b>	<b>Total Annual Cost</b>
2014	\$10,026,000	\$6,888,000	\$16,914,000
2015	\$4,000,000	\$26,564,000	\$30,564,000
2016	\$2,420,000	\$5,333,000	\$7,753,000
2017	\$4,000,000	\$2,400,000	\$6,400,000
2018	\$400,000	\$22,050,000	\$22,450,000
2019		\$8,500,000	\$8,500,000
2020	\$1,750,000	\$1,000,000	\$2,750,000
2022	\$1,500,000		\$1,500,000
2023	\$9,000,000		\$9,000,000
2024	\$9,000,000	\$4,692,800	\$13,692,800
<b>Totals:</b>	<b>\$42,096,000</b>	<b>\$72,150,800</b>	<b>\$114,246,800</b>

## 6.0 Prioritized List

The Department was asked to prepare a prioritized list (Table 4) for the cease and transfer program. In order to merge the needs for waste transfer and landfill closure into a single prioritized list, the Department considered the following factors:

- a. Date transfer is needed (when the landfill will be full or the operator will need to cease disposal due to the need for an engineered containment system or a performance based design).
- b. Ranking on the remediation prioritization list. This is primarily a factor for closure. This was prioritized first based on a facility's remediation priority score and, when applicable, in consideration of the date the site is expected to cease receipt of waste and need to be closed.
- c. Relative need for transfer. In order of community need:
  - i. There is no existing transfer capability.
  - ii. Improvements to existing infrastructure are required.
  - iii. Improvements to existing infrastructure are needed.
  - iv. Improvements to existing infrastructure are desired and may be appropriate, but are not necessarily mandatory.
- d. Has the operator already received financial assistance for solid waste related projects or not?
- e. Is the project consistent with integrated solid waste management (ISWM) practices and the local ISWM plan?
- f. Does the operator already have a transfer or closure permit or are they close to having one? In other words, is the project nearly "shovel ready"?

**Table 4**  
**Prioritized List for Transfer Facilities and Landfill Capping**

<b>Priority</b>	<b>Facility</b>	<b>Transfer or Closure</b>	<b>Estimated Cost</b>
1	Wheatland, Town of	Transfer	\$2,400,000
2	Upper Platte River SWDD - Saratoga	Transfer	\$500,000
3	Big Horn County SWDD - South	Transfer	\$1,500,000
4	Park County Landfills - Meeteetse, Powell, Clark	Transfer	\$351,000
5	Central Weston County SWDD - Osage	Transfer	\$350,000
6	Lusk, Town of	Closure	\$2,100,000
7	Upton, Town of	Transfer	\$1,300,000
8	Ten Sleep SWDD	Transfer	\$500,000
9	Newcastle, City of	Transfer	\$1,200,000
10	Moorcroft, Town of - Moorcroft #3	Transfer	\$1,500,000
11	Fremont County SWDD - Dubois	Transfer	\$425,000
12	Eden Valley SWDD	Closure	\$1,581,000
13	Fremont County SWDD - Dubois	Closure	\$894,000
14	Rock River, Town of - Rock River #2	Closure	\$905,000
15	Lincoln Co - Thayne	Transfer	\$1,500,000
16	Glenrock	Closure	\$1,600,000
17	Teton County - Horsethief Canyon	Transfer	\$2,500,000
18	Uinta County Solid Waste - Bridger Valley	Transfer	\$920,000
19	Big Horn County SWDD - North #2	Transfer	\$1,500,000
20	Lincoln Co - Thayne	Closure	\$2,600,000
21	Sundance, City of	Closure	\$2,240,000
22	Teton County - Horsethief Canyon	Closure	\$7,555,000
23	Green River, City of - Green River #2	Transfer	\$1,500,000
24	Thermopolis, Town of	Transfer	\$2,000,000
25	Hulett, Town of	Transfer	\$500,000
26	Upper Platte River SWDD - Saratoga	Closure	\$2,300,000
27	High Country Joint Powers Board - Hanna	Transfer	\$400,000
28	Douglas, City of	Closure	\$3,300,000
29	Rawlins, City of	Closure	\$7,300,000
30	Thermopolis, Town of	Closure	\$2,500,000
31	Baggs SWDD	Closure	\$2,250,000
32	Hulett, Town of	Closure	\$1,088,000
33	Big Horn County SWDD - South	Closure	\$2,400,000
34	Big Horn County SWDD - North #2	Closure	\$1,700,000
35	High Country Joint Powers Board - Hanna	Closure	\$1,000,000
36	Newcastle, City of	Closure	\$1,100,000
37	Tensleep SWDD	Closure	\$800,000



<b>Priority</b>	<b>Facility</b>	<b>Transfer or Closure</b>	<b>Estimated Cost</b>
38	Kaycee, Town of	Closure	\$1,000,000
39	Uinta County Solid Waste - Bridger Valley	Closure	\$4,000,000
40	Central Weston County SWDD - Osage	Closure	\$700,000
41	Wheatland, Town of	Closure	\$2,500,000
42	Green River, City of - Green River #2	Closure	\$3,500,000
43	Fremont County SWDD - Shoshone	Closure	\$1,645,000
44	LaGrange, Town of	Closure	\$1,400,000
45	Manville, Town of	Closure	\$500,000
46	Moorcroft, Town of - Moorcroft #3	Closure	\$500,000
47	Upton, Town of	Closure	\$1,500,000
48	Fremont County SWDD - Lander	Closure	\$4,692,800
49	Torrington #2	Closure	\$5,000,000
50	Fremont County SWDD - Lander	Transfer	\$1,500,000
51	La Barge, Town of	Transfer	\$250,000
52	Torrington #2	Transfer	\$1,500,000
53	Cheyenne, City of	Transfer	\$9,000,000
54	Casper, City of	Transfer	\$9,000,000
<b>Total</b>			<b>\$114,246,800</b>

## 7.0 Path Forward

The pace of transfer station construction and landfill capping will be largely dependent upon the availability of funds. Approximately 54 landfill operators have expressed interest in cease and transfer program funding assistance. These operators generally want to close as soon as possible to reduce costs related to continued landfill operation. In many cases, operators will need to transfer waste soon or be compelled to line new units or prepare performance based designs. Transfer is also needed so operators can transfer waste and close leaking landfills to protect groundwater. The longer a landfill remains open and uncapped, the greater the threats to groundwater.

It is important to note that the Department has a limited ability to influence which landfill operators will apply for funding first. Some are better prepared than others and the actual schedule may vary somewhat from the prioritized list. The Department also has a limited ability to influence which landfill operators will meet the eligibility criteria for funding. This too can alter the actual timing of work conducted under the program. The Department will work to help the operators of higher priority landfills enter the program first. We will take steps to coordinate activities and optimize cost efficiencies for the state and local governments.